



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,579	01/16/2001	Peter Rae Shintani	SNY-P4165	2899
24337	7590	09/27/2004	EXAMINER	
MILLER PATENT SERVICES 2500 DOCKERY LANE RALEIGH, NC 27606				BELIVEAU, SCOTT E
		ART UNIT		PAPER NUMBER
		2614		

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/760,579	SHINTANI ET AL.
	Examiner	Art Unit
	Scott Beliveau	2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 January 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/01</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____ . |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 26 and 52 (Figure 1); 420 (Figure 4); 520 (Figure 5). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 42 (Page 6, Line 16), 118 (Page 8, Line 4), 178 (Page 10, Line 29), 422 (Page 14, Line 14), 522 (Page 15, Line 7). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code (Page 5, Line 6). Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.
4. Updated status of all co-pending applications is further required as appropriate (Page 11, Line 9).

Claim Objections

5. Claim 18 is objected to because the reference to “the cache memory” (Line 21) is unclear. For the purpose of clarification, the examiner suggests the term “the service provider head end cache memory” so as to clearly distinguish the term from the “local cache memory”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. In particular, the term “the local cache memory” lacks proper antecedent basis. For the purpose of art rejection, the examiner shall presume that claim 19 is to be dependent on claim 18, in order to provide proper antecedent basis.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 7-10, 15, 16, 24, 26, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Leak et al. (US Pat No. 6,668,378).

Claims 1 and 7 are rejected wherein the Leak et al. reference discloses a “method of providing enhanced performance in an interactive television system” though pre-fetching and caching interactive content associated with a broadcast program. The method comprises “scanning an interactive content bearing program for a universal resource locator (URL)” associated with a broadcast trigger whereupon “finding a URL in the interactive content bearing program”, the system “mirrors content associated with the URL to a cache memory” associated with the local receiver or “set-top box” (Figure 8; Col 10, Lines 30 – 32). Subsequently, while “presenting the interactive content bearing program to a plurality of subscribers”, the receiver is operable to “receive a request from a subscriber for the URL” (ex. that associated with an order form or online magazine) whereupon the “mirrored content

associated with the URL” is “retrieved” from the “cache memory . . situated at a subscriber’s set-top box” and “delivered” to the subscriber display.

Claims 10 and 15 are rejected in view of claim 1 wherein the system implicitly comprises a “cache memory” for storing the retrieved “content associated with the URL” and a “program means running on a programmed processor” associated with the uplink station [605] or “media server” for providing a means to implement the “scanning” and “mirroring process” (Col 12, Lines 3-5). Further details pertaining to the composition of a WebTV® terminal that is operable to cache retrieved content in accordance with the Leak et al. system is illustrated in the Zigmond et al. (US Pat No. 6,571,392) reference which is incorporated by reference in its entirety (Col 4, Lines 44-65). As illustrated in Figure 4, of Zigmond et al. (‘392) a WebTV® terminal comprises a “cache memory” [304] (Figure 4; Col 5, Line 47 – Col 6, Line 14).

Claim 24 is rejected wherein the method of claim 1 is operable to be implemented via a “processor” associated with a “storage medium storing instructions” (Col 12, Lines 3-5).

In consideration of claims 8 and 26, as aforementioned, the Leak et al. reference explicitly incorporates the Zigmond et al. reference in its entirety. The Zigmond et al. (‘392) reference discloses a method for “determining that the URL requested by the subscriber is not in the cache memory” such that in response to it not being there the system “downloads the interactive content associated with the URL form the Internet” (Figure 3; Col 5, Line 33 – Col 7, Line 7; Col 9, Lines 17-53).

Claims 9, 16, and 27 are rejected wherein the Leak et al. reference is operable to “examine the content associated with the URL for a secondary URL and mirror content associated with the secondary URL to the cache memory” (Col 9, Lines 1-44).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 2-5, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leak et al. (US Pat No. 6,668,378) in view of Tso et al. (US Pat No. 6,81,298).

In consideration of claims 2, 11, and 25, the Leak et al. reference does not particularly disclose nor preclude the particular usage of a “purging algorithm” in conjunction with the limited local cache of the set-top box receiver. The Tso et al. reference discloses a method of “purging the cache memory in accordance with a purging algorithm” for a set-top box (Col

1, Lines 41-55). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to employ a “purging algorithm” for use in the Leak et al. set-top box for the purpose of providing a means to optimally manage the usage of a limited memory associated with a web page cache.

Claims 3 and 12 are rejected wherein the “purging algorithm” is performed “in accordance with an amount of time the mirrored content has been in the cache” such that cached content is purged on the basis of it residing the memory for an extended period of time without being used (Col 1, Lines 57-60).

Claim 4 is rejected wherein the “purging algorithm” is performed “in accordance with least frequent use algorithm” (Col 1, Lines 57-60).

Claims 5 and 13 are rejected wherein the “purging algorithm” is performed “in accordance with an order that the mirrored content was placed in the cache” (Col 1, Lines 57-60). For example, assume that a content item that was originally placed in the cache 2 weeks prior to another item wherein all other factors associated with the content items are equal and neither page was revisited. The system would, subsequently, purge the first item prior to the second item based on the order that the mirrored content was placed in the cache.

13. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leak et al. (US Pat No. 6,668,378) in view of Mighdoll et al. (US Pat No. 5,918,013).

In consideration of claims 6 and 14, while “cache memory” may be inherently associated with the “service provider head end” [605] of Leak et al. in conjunction with the retrieval and decoding of web pages for subsequent broadcast, it is unclear if the content associated with the URL is necessarily stored for subsequent retrieval by client units as previously set forth

in Zigmond et al. ('392) (Figure 3). The Mighdoll et al. reference discloses the advantageous usage of a remotely located "cache memory" or proxy server [5] that facilitates the retrieval requested documents requested from the Internet by a WebTV® terminal (Col 4, Line 41 – Col 5, Line 15). Accordingly, as the existence of headend based caching of web pages is commonly known in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the "service provider head end" [605], which already serves as a form of Internet proxy, so as to further comprise a "cache memory" such as that utilized in connection with a WebTV® server for the purpose of advantageously reducing latency associated with retrieving documents from the Internet that are expected to be frequently requested by clients by nature of being associated with a broadcast program (Col 1, Line 54 – Col 2, Line 6). Taken in combination, a trigger is received by the "service provider head end" [605] and its associated content is retrieved and cached both locally and remotely such that the content is quickly retrievable by Internet capable clients from a remote cache and is transcoded for broadcast delivery and local caching for both Internet and non-Internet capable.

14. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leak et al. (US Pat No. 6,668,378), in view of Mighdoll et al. (US Pat No. 5,918,013), and in further view of Arlitt et al. (US Pat No. 6,272,598).

In consideration of claim 17, the Leak et al. reference discloses a "method of providing enhanced performance in an interactive television system" through pre-fetching and caching interactive content associated with a broadcast program. The method comprises "scanning an interactive content bearing program for a universal resource locator (URL)" associated

with a broadcast trigger whereupon “finding a URL in the interactive content bearing program”, the system “mirrors content associated with the URL to a cache memory” associated with the local receiver or “set-top box” (Figure 8; Col 10, Lines 30 – 32). Subsequently, while “presenting the interactive content bearing program to a plurality of subscribers”, the receiver is operable to “receive a request from a subscriber for the URL” (ex. that associated with an order form or online magazine) whereupon the “mirrored content associated with the URL” is “retrieved” from the “cache memory . . . situated at a subscriber’s set-top box” or the Internet (ex. Zigmond et al. (’392)) and “delivered” to the subscriber display.

The reference, however, does not disclose nor preclude the further “caching” of the retrieved “content associated with the URL to a cache memory situated at a service provider head end” that acts as a Internet proxy for downstream clients. The Mighdoll et al. reference discloses the advantageous usage of a remotely located “cache memory” so as to facilitate the retrieval of WebTV® terminal or client requested documents (Col 4, Line 41 – Col 5, Line 15). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the “service provider head end” [605] so as to further comprise a “cache memory” such as that utilized in connection with a WebTV® server for the purpose of advantageously reducing latency associated with retrieving documents from the Internet that are expected to be retrieved in conjunction with the broadcast material (Col 1, Line 54 – Col 2, Line 6).

Accordingly taken in combination, a trigger is received by the “service provider head end” [605] and its associated content is retrieved and cached. However, the combined

references do not particularly disclose the usage of a “purging algorithm” for use in the “service provider head end” based proxy server. The Arlitt et al. reference discloses a method for “purging the cache memory in accordance with a purging algorithm . . . [based on] an amount of time the mirrored content has been in the cache memory” (Col 5, Line 58 – Col 6, Line 3). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the combined references so as to further utilize a “purging algorithm” as taught by Arlitt et al. for the purpose of providing a flexible means for managing the limited storage capacity of a proxy cache (Arlitt et al.: Col 2, Lines 10-54).

Claims 18 and 19 are rejected in light of the aforementioned combined teachings wherein the “mirroring further comprises mirroring the content associated with the URL to a local cache memory situated at a subscriber’s set-top box”. Accordingly, the “retrieving” comprises, initially using the “local cache”, wherein if the content is not there, the request is sent further upstream to the service provider headend “cache memory” or proxy and finally to Internet if it is not currently cached there (Zigmond et al.: Figure 3; Mighdoll et al.: Figure 6).

Claim 20 is rejected wherein the combined references are operable to “examine the content associated with the URL for a secondary URL and mirror content associated with the secondary URL to the cache memory” (Leak et al.: Col 9, Lines 1-44).

15. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leak et al. (US Pat No. 6,668,378), in view of Mighdoll et al. (US Pat No. 5,918,013), in view of Arlitt et al. (US Pat No. 6,272,598), and in further view of Tso et al. (US Pat No. 6,81,298).

In consideration of claim 21, the Leak et al. reference discloses a “method of providing enhanced performance in an interactive television system” though pre-fetching and caching interactive content associated with a broadcast program. The method comprises “scanning an interactive content bearing program for a universal resource locator (URL)” associated with a broadcast trigger whereupon “finding a URL in the interactive content bearing program”, the system “mirrors content associated with the URL to a cache memory” associated with the local receiver or “set-top box” (Figure 8; Col 10, Lines 30 – 32). Subsequently, while “presenting the interactive content bearing program to a plurality of subscribers”, the receiver is operable to “receive a request from a subscriber for the URL” (ex. that associated with an order form or online magazine) whereupon the “mirrored content associated with the URL” is “retrieved” from the “cache memory . . . situated at a subscriber’s set-top box” or the Internet (ex. Zigmond et al. (“392)) and “delivered” to the subscriber display.

The reference, however, does not disclose nor preclude the further “caching” of the retrieved “content associated with the URL to a cache memory situated at a service provider head end” that acts as a Internet proxy for downstream clients. The Mighdoll et al. reference discloses the advantageous usage of a remotely located “cache memory” so as to facilitate the retrieval of WebTV® terminal or client requested documents (Col 4, Line 41 – Col 5, Line 15). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the “service provider head end” [605] so as to further comprise a “cache memory” such as that utilized in connection with a WebTV® server for the purpose of advantageously reducing latency associated with retrieving

documents from the Internet that are expected to be retrieved in conjunction with the broadcast material (Col 1, Line 54 – Col 2, Line 6).

Taken in combination, a trigger is received by the “service provider head end” [605] and its associated content is retrieved “mirrored . . . to a cache memory situated at a service provider and a local cache memory situated at a subscriber’s set-top box” . As aforementioned, the combined references do not particularly disclose the usage of a “purging algorithm” for use in a proxy server such as the “server provider head end”. The Arlitt et al. reference discloses a method for “purging the cache memory in accordance with a purging algorithm . . . [based on] an amount of time the mirrored content has been in the cache memory” (Col 5, Line 58 – Col 6, Line 3). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the combined references so as to further utilize a “purging algorithm” as taught by Arlitt et al. for the purpose of providing a flexible means for managing the limited storage capacity of a proxy cache (Arlitt et al.: Col 2, Lines 10-54).

Taken in combination, however, the combined references do not particular disclose nor preclude the usage of a “purging algorithm” in conjunction with the limited local cache of the set-top box receiver. The Tso et al. reference discloses a method of “purging the cache memory in accordance with a purging algorithm . . . [based on] an amount of time the mirrored content has been in the cache” of the set-top box (Col 1, Lines 41-60). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to employ a “purging algorithm” for use in the Leak et al. set-

top box for the purpose of providing a means to optimally manage the usage of a limited memory associated with a web page cache.

Claim 22 is rejected as aforementioned wherein the system “determines that the URL requested by the subscriber is not in the cache memory and the local cache memory” and subsequently “downloads the interactive content associated with the URL from the Internet” (Zigmond et al.: Figure 3; Mighdoll et al.: Figure 6).

Claim 23 is rejected wherein the combined references are operable to “examine the content associated with the URL for a secondary URL and mirror content associated with the secondary URL to the cache memory” (Leak et al.: Col 9, Lines 1-44).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made.

- The Kunkel et al. (US Pat No. 5,961,603) reference discloses a system and method for accessing the internet wherein web pages associated with broadcast programs are retrieved cached at the headend.
- The Brotz et al. (US Pat No. 6,374,404) reference discloses an intelligent device that is operable to facilitate the background caching of web pages.
- The Dureau et al. (US Pat No. 6,118,472) reference discloses a satellite uplink system that is operable to cache requested web pages in order to reduce delivery latency.

Art Unit: 2614

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 703-305-4907.

The examiner can normally be reached on Monday-Friday from 8:30 a.m. - 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 703-305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEB
September 16, 2004



JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600